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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,090	11/14/2003	Peter J. Nicklas	22176.25	9534
29127	7590	09/11/2007		
HOUSTON ELISEEVA 4 MILITIA DRIVE, SUITE 4 LEXINGTON, MA 02421			EXAMINER ELVE, MARIA ALEXANDRA	
			ART UNIT 1725	PAPER NUMBER
			MAIL DATE 09/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/714,090	NICKLAS, PETER J.	
	Examiner	Art Unit	
	M. Alexandra Elve	1725	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 22 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. (USPN 5,861,605) in view of Nemoto et al. (USPN 3,855,015).

Ogawa et al. discloses a flux cored welding wire with a stainless steel sheath. The core contains  $\text{Al}_2\text{O}_3$ ,  $\text{CaCO}_3$ ,  $\text{CaF}_2$ ,  $\text{MgO}$ ,  $\text{Na}_2\text{O}_3$  and other compounds and elements. The flux ratio ranges from 23 to 25 wt%. The combined amounts of  $\text{Al}_2\text{O}_3$  and  $\text{Na}_2\text{O}_3$  are about 1.5 wt%.

Ogawa et al. does not teach combined amounts of  $\text{Al}_2\text{O}_3$  and  $\text{Na}_2\text{O}_3$  of 14 wt%.

Nemoto et al. discloses the submerged arc welding of a steel product. The flux used in welding is a 4:1 weight ratio of (i)  $\text{SiO}_2$  (16wt%),  $\text{Al}_2\text{O}_3$  (16wt%), Ca (21wt%), MnO (31wt%),  $\text{CaF}_2$  (7wt%),  $\text{Fe}_2\text{O}_3$  (4wt%), &  $\text{Na}_2\text{O}_3$  (3wt%) and (ii)  $\text{CaCO}_3$  (2wt%),  $\text{CaF}_2$  (40wt%), Mn (15wt%), & Fe-Ti (25wt%). Thus in the combined fluxes the total  $\text{Al}_2\text{O}_3$  and  $\text{Na}_2\text{O}_3$  is approximately 15.2 wt%.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the  $\text{Al}_2\text{O}_3$  and  $\text{Na}_2\text{O}_3$  amounts as taught by Nemoto et al. in the Ogawa

et al. system because they are both drawn to submerged arc welding of similar materials.

The exact amounts of each of the constituents as presently claimed are not disclosed in the prior art; however, the prior art compositions closely approximate applicant's claimed invention. It has been held that one of ordinary skill in the art at the time of the invention would have considered the claimed compositions to have been obvious because close approximation in a composition is considered to establish a prima facie case of obviousness. See In re Malagari, 182 USPQ 549, *Titanium Metals v. Banner* 227 USPQ 773, In re Nehrenberg 126 USPQ 383.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. and Nemoto et al., as stated in the above paragraph and further in view of Arikawa et al. (USPN 3,531,620).

Ogawa et al. does not teach the presence of Fe, FeMg or FeSi.

Arikawa et al. discloses an arc-welding electrode, which has a cylindrical steel casing. The powdered core may contain MgCO<sub>3</sub>, CaCO<sub>3</sub>, Al-Mg, Al<sub>2</sub>O<sub>3</sub>, Na<sub>2</sub>O, MgO, ferrous powder, CaF<sub>2</sub>, Mg powder, Fe-Si and other compounds and elements. It would have been obvious to one of ordinary skill in the art at the time of the invention to use ferrous powder and Fe-Si, as taught by Arikawa et al. in the Ogawa et al. system because the iron (ferrous) part is a metallic component of the welded joint and the Si compounds are known deoxidizers which mitigate detrimental oxidation effects in the welded joint.

***Response to Arguments***

Applicant's arguments filed 6/26/07 have been fully considered but they are not persuasive.

Applicant argues that Nemoto et al. does not teach a core electrode. The examiner respectfully notes that Nemoto et al. was used to teach the flux compositional amounts. These fluxes may be used in a cored wire or in external fluxes in submerged arc welding. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Both references are drawn to submerged arc welding and while Ogawa et al. teaches the cored wire, Nemoto et al. teaches the 14% composition. It is well known that the external fluxes used in arc welding may also be incorporated into cored wires and hence the motivation to combine the two references.

Applicant argues that Ogawa et al. and Nemoto et al. do not teach the additional features of claim 12. The examiner respectfully disagrees because Ogawa et al. teaches flux ranges from 1.5% to 25% and Nemoto et al. teaches external fluxes of 2 to 40%. These compositional amounts of the references encompass instant claim limitations of 5 to 15%. Furthermore, it has been held that one of ordinary skill in the art at the time of the invention was made would have considered the claimed compositions to have been obvious because close approximation or overlapping ranges in a composition is considered to establish a prima facie case of obviousness. See *In re*

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Malagari, 182 USPQ 549, Titanium Metals v. Banner 227 USPQ 773, In re Nehrenberg 126 USPQ 383.

Applicant argues that Ogawa et al. and Nemoto et al. do not teach a core having non-metallic compounds combined fluxes the total  $\text{Al}_2\text{O}_3$  and  $\text{Na}_2\text{O}_3$  is 14%. The examiner respectfully notes that Nemoto et al. teaches the cored weight, which contains  $\text{Al}_2\text{O}_3$  and  $\text{Na}_2\text{O}_3$ . Nemoto et al. teaches the flux amount of  $\text{Al}_2\text{O}_3$  and  $\text{Na}_2\text{O}_3$  approximately 15.2 wt%. The compositional amount is not exactly the same but it closely approximates instant claim limitations. Furthermore, it has been held that one of ordinary skill in the art at the time of the invention was made would have considered the claimed compositions to have been obvious because close approximation or overlapping ranges in a composition is considered to establish a prima facie case of obviousness. See In re Malagari, 182 USPQ 549, Titanium Metals v. Banner 227 USPQ 773, In re Nehrenberg 126 USPQ 383.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 7:30-4:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on 571-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 31, 2007

/M. Alexandra Elve/  
M. Alexandra Elve  
Primary Examiner 1725